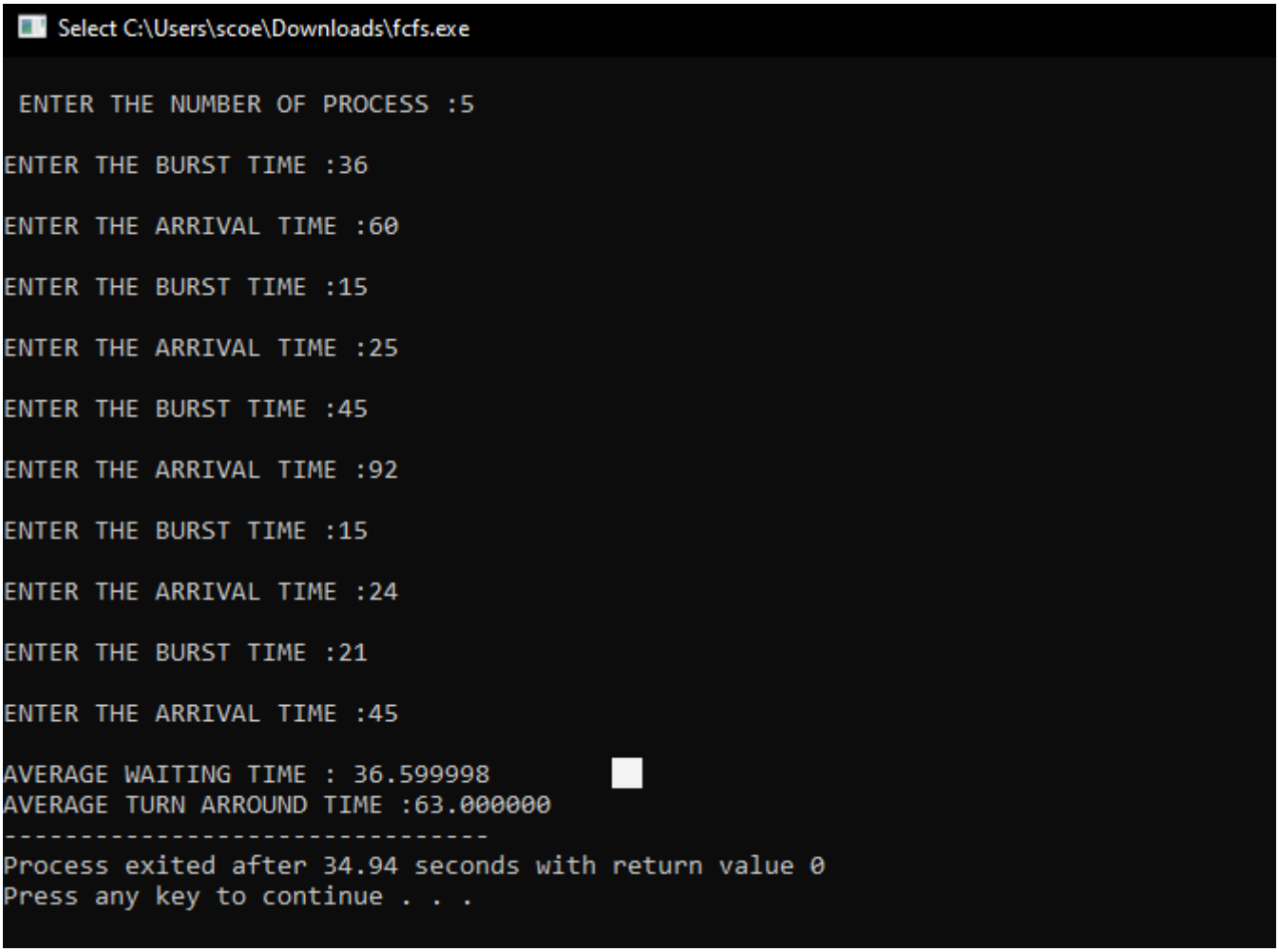
SPOS Assignment No. 3 (First Come First Serve)

```
#include<stdio.h>
#include<string.h>
typedef struct process
{
char pname[10];
int burst;
int at;
int wt;
int rt;
int tat;
}p1;

int main()
{
p1 p[10];
float avg_tat=0;
float avg_wt=0;
float avg_rt=0;
int n;
int i;
int j;
p1 swap;
printf("\n ENTER THE NUMBER OF PROCESS :");
scanf("%d",&n);
for(i=0;i<n;i++)
{
p[i].pname[0]='p';
p[i].pname[1]=i;
p[i].pname[2]='\0';
printf("\nENTER THE BURST TIME :");
scanf("%d",&p[i].burst);
printf("\nENTER THE ARRIVAL TIME :");
scanf("%d",&p[i].at);
}
for(i=0;i<n;i++)
 {
  for(j=i+1;j<n;j++)
    {
       if(p[i].at>p[j].at)
       {
       swap=p[i];
       p[i]=p[j];
       p[j]=swap;
       }
     }
 }

for(i=0;i<n;i++)
{
p[i].wt=avg_rt;
p[i].rt=p[i].wt;
p[i].tat=p[i].burst+p[i].wt;
```

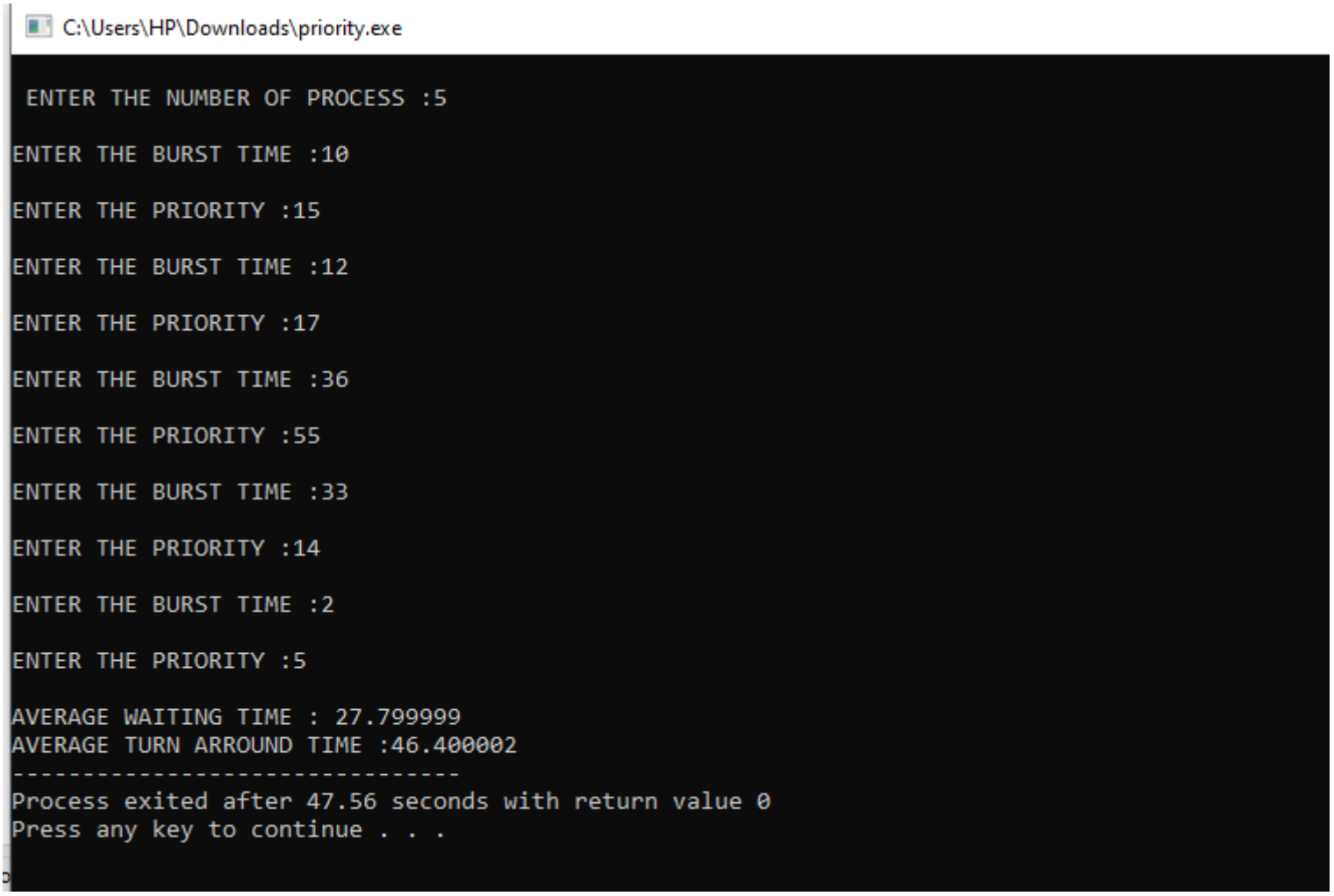
```
avg_tat=avg_tat+p[i].tat;
avg_rt=avg_rt+p[i].burst;
}
avg_wt=0;
for(i=0;i<n;i++)
{
avg_wt=p[i].wt+avg_wt;
}
avg_wt=avg_wt/n;
avg_tat=avg_tat/n;
printf("\nAVERAGE WAITING TIME : %f",avg_wt);
printf("\nAVERAGE TURN ARROUND TIME :%f",avg_tat);
return 0;
}
```


Select C:\Users\scoe\Downloads\fcfs.exe
ENTER THE NUMBER OF PROCESS :5
ENTER THE BURST TIME :36
ENTER THE ARRIVAL TIME :60
ENTER THE BURST TIME :15
ENTER THE ARRIVAL TIME :25
ENTER THE BURST TIME :45
ENTER THE ARRIVAL TIME :92
ENTER THE BURST TIME :15
ENTER THE ARRIVAL TIME :24
ENTER THE BURST TIME :21
ENTER THE ARRIVAL TIME :45
AVERAGE WAITING TIME : 36.599998
AVERAGE TURN ARROUND TIME :63.000000
Process exited after 34.94 seconds with return value 0
Press any key to continue . . .

Assignment 3(Priority)

```
#include<stdio.h>
#include<string.h>
typedef struct process
{
char pname[10];
int burst;
int priority;
int wt;
int rt;
int tat;
}p1;

int main()
{
p1 p[10];
float avg_tat=0;
float avg_wt=0;
float avg_rt=0;
int n;
int i;
int j;
p1 swap;
printf("\n ENTER THE NUMBER OF PROCESS :");
scanf("%d",&n);
for(i=0;i<n;i++)
{
p[i].pname[0]='p';
p[i].pname[1]=i;
p[i].pname[2]='\0';
printf("\nENTER THE BURST TIME :");
scanf("%d",&p[i].burst);
printf("\nENTER THE PRIORITY :");
scanf("%d",&p[i].priority);
}
for(i=0;i<n;i++)
 {
  for(j=i+1;j<n;j++)
    {
       if(p[i].priority>p[j].priority)
       {
       swap=p[i];
       p[i]=p[j];
       p[j]=swap;
       }
     }
 }

for(i=0;i<n;i++)
{
p[i].wt=avg_rt;
p[i].rt=p[i].wt;
p[i].tat=p[i].burst+p[i].wt;
avg_tat=avg_tat+p[i].tat;
```

```
avg_rt=avg_rt+p[i].burst;
}
avg_wt=0;
for(i=0;i<n;i++)
{
avg_wt=p[i].wt+avg_wt;
}
avg_wt=avg_wt/n;
avg_tat=avg_tat/n;
printf("\nAVERAGE WAITING TIME : %f",avg_wt);
printf("\nAVERAGE TURN ARROUND TIME :%f",avg_tat);
return 0;
}
```


C:\Users\HP\Downloads\priority.exe
ENTER THE NUMBER OF PROCESS :5
ENTER THE BURST TIME :10
ENTER THE PRIORITY :15
ENTER THE BURST TIME :12
ENTER THE PRIORITY :17
ENTER THE BURST TIME :36
ENTER THE PRIORITY :55
ENTER THE BURST TIME :33
ENTER THE PRIORITY :14
ENTER THE BURST TIME :2
ENTER THE PRIORITY :5
AVERAGE WAITING TIME : 27.799999
AVERAGE TURN ARROUND TIME :46.400002
Process exited after 47.56 seconds with return value 0
Press any key to continue . . .

Assignment 3(Roundr)

```
#include<stdio.h>
#include<string.h>
#include<ctype.h>
#include<stdlib.h>
typedef struct process
{
char pname[10];
int bt;
int at;
int wt;
int rt;
int tat;
}p1;

int main()
{
p1 p[10];
float avg_tat=0;
float avg_wt=0;
float avg_rt=0;
int n;
int i;
int j;
int k=0;
int l=0;
p1 swap;
p1 result[10];
p1 e[10];
int nextprocess=0;
int total_burst=0;
int realtime=0;
int tq;
printf("\n ENTER THE NUMBER OF PROCESS :");
scanf("%d",&n);
printf("\nENTER THE TIME QUANTUM:");
scanf("%d",&tq);
for(i=0;i<n;i++)
{

sprintf(p[i].pname,"p%d",i+1);

p[i].rt=-1;
p[i].wt=0;
p[i].tat=0;

printf("\nENTER THE BURST TIME :");
scanf("%d",&p[i].bt);
total_burst=total_burst+p[i].bt;
printf("\nENTER THE ARRIVAL TIME:");
scanf("%d",&p[i].at);
}

for(i=0;i<n;i++)
```

```
 {
  for(j=i+1;j<n;j++)
    {
       if(p[i].at>p[j].at)
       {
       swap=p[i];
       p[i]=p[j];
       p[j]=swap;
       }
     }
 }

for(i=0;i<n;i++)
  {
        e[l]=p[i];
        if(i!=(n-1))
        nextprocess=p[i+1].at;
        else
        nextprocess=10000;

        while(total_burst>=realtime && nextprocess>(realtime+tq))
             {
             if(e[0].bt>tq)
             {
             e[0].wt=e[0].wt+realtime-e[0].tat;

             if(e[0].rt==-1)
             e[0].rt=realtime;

             realtime=realtime+tq;
             e[0].tat=realtime;
             e[0].bt=e[0].bt-tq;
                 swap=e[0];
                 for(j=0;j<=(l-1);j++)
                 e[j]=e[j+1];
                 e[j]=swap;

             }

             else
             {
             if(e[0].bt!=0)
              {
              if(e[0].rt==-1)
              e[0].rt=realtime;
              e[0].wt=e[0].wt+realtime-e[0].tat-e[0].at;
              realtime=realtime+e[0].bt;
              e[0].tat=realtime-e[0].at;
              }

              result[k]=e[0];
              k++;
              for(j=0;j<=(l-1);j++)
              e[j]=e[j+1];
              l=l-1;
```

```
            }

        }
        l++;
}


for(i=0;i<n;i++)
{

avg_tat=avg_tat+result[i].tat;
avg_rt=avg_rt+result[i].rt;
avg_wt=result[i].wt+avg_wt;
}
avg_wt=avg_wt/n;
avg_tat=avg_tat/n;
avg_rt=avg_rt/n;
printf("\nAVERAGE WAITING TIME : %f",avg_wt);
printf("\nAVERAGE TURN ARROUND TIME :%f",avg_tat);
printf("\nAVERAGE RESPONSE TIME :%f",avg_rt);
return 0;
}
```

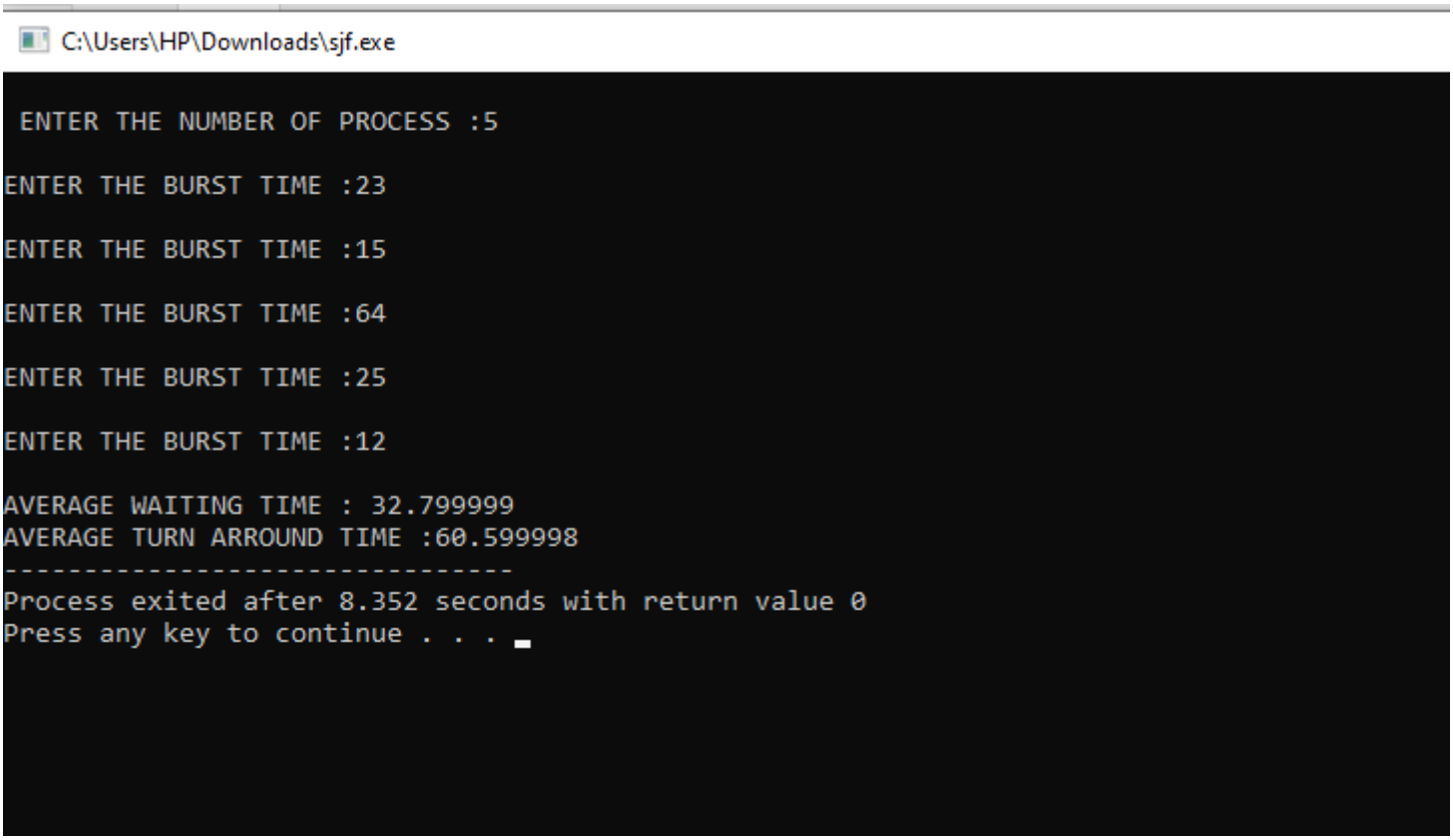
C:\Users\HP\Downloads\roundr.exe

```
 ENTER THE NUMBER OF PROCESS :5

ENTER THE TIME QUANTUM:12

ENTER THE BURST TIME :23

ENTER THE ARRIVAL TIME:6

ENTER THE BURST TIME :24

ENTER THE ARRIVAL TIME:08

ENTER THE BURST TIME :34

ENTER THE ARRIVAL TIME:89

ENTER THE BURST TIME :15

ENTER THE ARRIVAL TIME:26

ENTER THE BURST TIME :42

ENTER THE ARRIVAL TIME:27

AVERAGE WAITING TIME : 23.200001
AVERAGE TURN ARROUND TIME :50.799999
AVERAGE RESPONSE TIME :43.200001
--------------------------------
Process exited after 20.62 seconds with return value 0
Press any key to continue . . .
```

Assignment 3(SJF)

```
#include<stdio.h>
#include<string.h>
typedef struct process
{
char pname[10];
int burst;
int wt;
int rt;
int tat;
}p1;

int main()
{
p1 p[10];
float avg_tat=0;
float avg_wt=0;
float avg_rt=0;
int n;
int i;
int j;
p1 swap;

printf("\n ENTER THE NUMBER OF PROCESS :");
scanf("%d",&n);
for(i=0;i<n;i++)
{
p[i].pname[0]='p';
p[i].pname[1]=i;
p[i].pname[2]='\0';
printf("\nENTER THE BURST TIME :");
scanf("%d",&p[i].burst);
}
for(i=0;i<n;i++)
 {
  for(j=i+1;j<n;j++)
    {    if(p[i].burst>p[j].burst)
        {
        swap=p[i];
        p[i]=p[j];
        p[j]=swap;
        }
     }
 }



for(i=0;i<n;i++)
{

p[i].wt=avg_rt;
p[i].rt=p[i].wt;
p[i].tat=p[i].burst+p[i].wt;
avg_tat=avg_tat+p[i].tat;
```

```
avg_rt=avg_rt+p[i].burst;
}
avg_wt=0;
for(i=0;i<n;i++)
{
avg_wt=p[i].wt+avg_wt;
}
avg_wt=avg_wt/n;
avg_tat=avg_tat/n;
printf("\nAVERAGE WAITING TIME : %f",avg_wt);
printf("\nAVERAGE TURN ARROUND TIME :%f",avg_tat);
return 0;
}
```


C:\Users\HP\Downloads\sjf.exe
ENTER THE NUMBER OF PROCESS :5
ENTER THE BURST TIME :23
ENTER THE BURST TIME :15
ENTER THE BURST TIME :64
ENTER THE BURST TIME :25
ENTER THE BURST TIME :12
AVERAGE WAITING TIME : 32.799999
AVERAGE TURN ARROUND TIME :60.599998
Process exited after 8.352 seconds with return value 0
Press any key to continue . . .